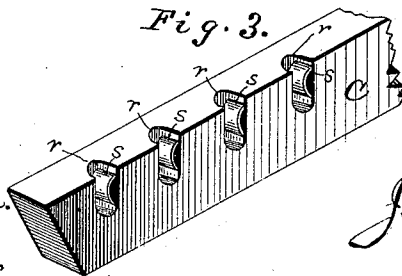
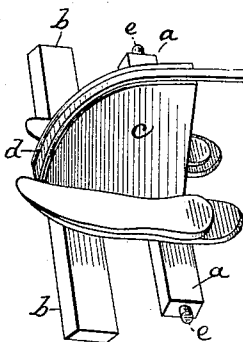
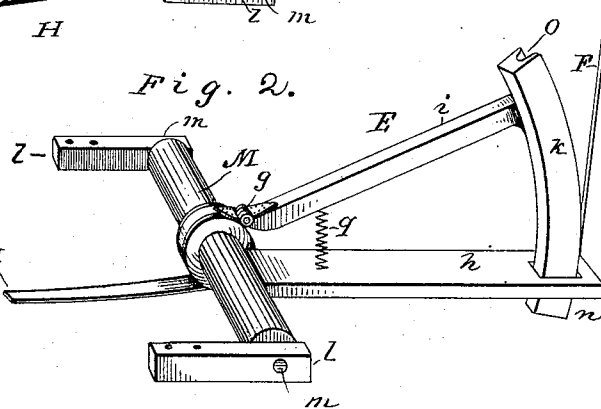
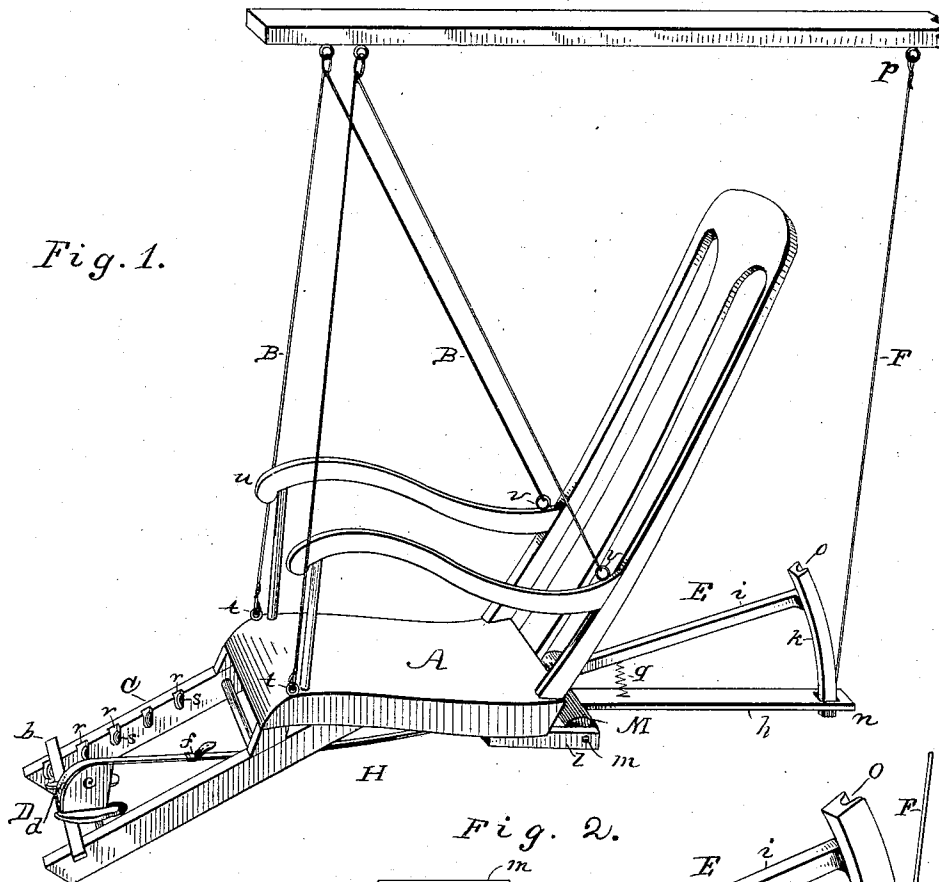


(No Model.)

J. C. McMULLEN.
AUTOMATIC SWINGING CHAIR.

No. 323,709.

Patented Aug. 4, 1885.



WITNESSES:
Thos. Houghton,
R. B. Turpin,

INVENTOR:
J. C. McMillen
BY Munn & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN C. McMULLEN, OF ST. AUGUSTINE, PENNSYLVANIA.

AUTOMATIC SWINGING CHAIR.

SPECIFICATION forming part of Letters Patent No. 323,709, dated August 4, 1885.

Application filed September 5, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. McMULLEN, a citizen of the United States, residing at St. Augustine, in the county of Cambria, State of Pennsylvania, have invented a new and useful Automatic Swinging Chair, of which the following is a specification.

My invention is an improvement in swinging chairs, and relates to the construction by which the occupant of the chair may originate and maintain a continuous swinging motion, to which end it consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of my chair; Fig. 2, a similar view of the driving mechanism detached, and Fig. 3 is a detail view of one of the legs of the chair.

Similar letters refer to similar parts throughout the several views.

A is the chair. B B are the supports, which may be of any material, flexible or inflexible, possessing the requisite tensile strength.

The legs C C, the pedal D, the strap H, the lever F, and the rope F attached above constitute the driving apparatus.

The pedal D consists of two slats, *a* and *b*, a segment of a pulley, *c*, and two foot-pieces. Slat *a* is of sufficient length to fit between the legs C C, and has axle-pins *e e* fitted to slots or holes in the inside of each. Slat *b* is made long enough to catch on the legs and prevent the pedal from turning too far round in either way. The strap H fastens to the pedal at *d* and passes over the segment of pulley *c*, which maintains it during motion of the pedal always equidistant from the axis *e e*. At *f* is a buckle for adjusting length of strap H. The lever E comprises a rock-shaft, M, an arm, *h*, fixed rigidly at one end to the rock-shaft, an arm, *i*, also fixed at one end to the rock-shaft, and a rim-bar, *k*, extending between the outer ends of said arms. The rock-shaft is journaled at *m* to the back of the chair, usually in bars *l l*, as shown, and to it I fix the strap H, which connects it with the pedal. A cord, F, connects at one end with the lever-frame, preferably at the lower end of the rim-bar *k*, which may have a groove, *o*, to receive such cord in the operation of the device. The other end of cord F is fixed at *p* to a suitable support. By this lever E a

slight movement of the treadle operates to give a considerable movement to the chair, as will be seen. It is preferable to hinge one of the arms of the lever at *g* to the rock-shaft and hold such arms normally apart by an interposed spring, *q*. The rim-bar in this construction is fixed to the arm next the chair-back, and is movable through an opening, *n*, formed through the other or lower arm, so that when the lever comes in contact with the chair-back it will yield and lessen the shock of such contact, and will also permit the chair to swing farther back than if the arms of the lever were both fixed to the rock-shaft. An entire wheel and pulley, both reduced in proper proportions, might be used instead of the levers E. The proportion of pulley to wheel will vary from one to six to one to twelve. Two or more straps, H, levers E, and ropes F might be used. Strap H and rope F may be of any flexible material. Chains might be used. On the inside of one of the legs of the chair slots *r r r* are made, as shown in Fig. 3, to receive the axis of the pedal and permit its removal for adjustment to the reach of the occupant of the chair. In each slot is a small spring, *s s s*, which will keep the axis in its place, but permit it to be pulled out or forced in by using a little force. In the other leg, opposite each slot in the one shoulder, a hole or socket will be placed for the opposite axis.

In the use of flexible support B B for a chair, if the front ones be fastened to the chair at *tt*, some inches lower than the back ones at *vv*, and pass upward immediately outside of rigid arms or other attachments at *uu* without being fastened to them, it obviates the annoyance of motion in irregular directions, guiding it always directly backward and forward.

Heretofore swinging chairs have been suspended on flexible supporting-hangers, and one of such hangers has been connected with the chair through the medium of a rigid bar pivotally secured to the chair and connected by a suitable link with a treadle also pivoted to the chair, the treadle and bar forming a lever by which to impart motion to the chair. In this construction the lever forms a part of one of the supports of the chair, and its operation is impeded by the direct weight of the operator. In my invention the lever through

which the chair is moved is not connected with the supporting-hangers of the chair, and is thereby freed from the weight of the operator and may be actuated more easily, and will
5 give a greater movement to the chair because of its being independent of the supporting-hangers, as will be understood.

I am aware that swinging chairs and swings of various kinds have been made prior to my
10 invention. I therefore do not claim such a combination, broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the chair, a pedal
15 supported thereon, a lever having a rock-shaft, a cord connecting said pedal and rock-shaft, and a cord whereby said lever may be connected with a suitable support, substantially as set forth.

20 2. The combination of the chair having legs C, the pedal having a bar, *a*, pivoted to said legs C, and a bar, *b*, having its ends extended over said legs and adapted to operate as a stop, a segment, C, mounted on said pedal, a lever, a cord connecting said segment with the lever, and a cord connecting the lever and a support, substantially as set forth.

3. In combination with the chair, a lever, E, comprising a rock-shaft journaled to the
30 chair, an arm fixed rigidly to said shaft, a second arm hinged to said rock-shaft, a spring interposed between the rigid and hinged arms,

a rim-bar fixed to the upper arm and movable through the lower one, and a cord connecting the lever with the support, substantially as
35 set forth.

4. The combination, with the chair having legs C, provided with a series of notches, *r*, of the pedal having pivots adjustable into one or
40 the other of said notches, the rock-shaft journaled in rear of the chair, a cord extending between the pedal and the rock-shaft, an arm fixed to the rock-shaft, a second arm hinged to the rock-shaft, a rim-bar fixed to the hinged arm and movable post, a fixed arm, and a cord
45 connecting the lever with a support, substantially as set forth.

5. The combination of the chair having legs C, one of which has slots *r*, springs *s* arranged in said slots, and the treadle, substantially as
50 set forth.

6. The combination of the chair-hangers whereby said chair is supported, a pedal supported on said chair, a lever, a cord connecting said pedal and lever, and a cord whereby
55 said lever may be connected with a suitable support, the said cord and chair-supporting hangers being independent of each other, substantially as set forth.

JOHN C. McMULLEN.

Witnesses:

MARTIN BRYAN,
JOHN J. McVAY.